

CLAIMS

1. A method for activation, which method is dynamically adaptive to noise mixed with an input data signal, comprising:
 - calculating power of a portion of the input signal;
 - comparing the power of the portion of the input signal with a reference level;
 - when said comparing satisfies a first condition, generating an activation signal;
 - when said comparing satisfies a second condition, setting the reference level a predetermined amount higher than the calculated power;
 - and
 - repeating said steps for each of successive portions of the input data signal.

2. The method of claim 1, wherein:

the second condition is different from the first condition and is that
the first condition is absent for a predetermined time period for successive
portions of the input data signal.

5 3. The method of claim 2, for a voice activated transmission, further

comprising:

dividing the input signal into a succession of voice signal frames;
processing the input signal on a frame by frame basis; and wherein
the first condition is that the input signal is at least higher than the
reference level to determine the presence of speech.

10 4. A method of activation, comprising:

15 defining a time period;
 comparing an input signal with a reference level for a portion of the
 input signal;

when said comparing satisfies a condition, generating an activation

signal and then repeating said comparing; and

when said comparing does not satisfy the condition repeatedly and successively for the time period, changing the reference level to a function of the input signal and then repeating said comparing.

5

5. The method of claim 4, for data transmission, further comprising:

calculating power of the input signal;

said comparing step comparing calculated power with the reference level;

said changing step setting the reference level substantially higher than the calculated power; and

activating transmission of the input signal in response to the activation signal.

6. The method of claim 5, for voice activated transmission that is

15 dynamically adaptive to a level of noise that is mixed with valid speech in

the input signal, said method further comprising:

dividing the input signal into a succession of voice signal frames;

processing the input signal on a frame by frame basis;

said activating transmission being on a frame by frame basis;

5 said calculating and comparing steps being repeated in order for

each of the voice signal frames;

wherein the condition is that the power of the input signal is at least

higher than the reference level to determine the presence of speech; and

10 said changing step setting the reference level relative to the input

signal power.

7. The method of claim 4, for voice activated speech transmission

that is dynamically adaptive to a level of noise mixed with valid speech in

the input signal, said method further comprising:

15 dividing the input signal into a succession of voice signal frames;

processing the input signal with a codec on a frame by frame basis;

repeating said comparing in order for each of the voice signal

frames;

calculating a level of the input signal for a single current frame prior to each step of comparing;

5 said comparing step comparing the level of the input signal with the reference level;

activating transmission of a frame of the input signal in response to the activation signal; and

10 said changing step setting the reference level as a function of the level of the input signal.

8. The method according to claim 4, which dynamically adapts to a

level of noise that is mixed with a valid signal in the input signal for improving transmission performance by adaptively distinguishing between

15 the valid signal and the noise, said method further comprising the steps

of:

prior to said steps, initializing a time period as the predefined time and initializing the reference level as a threshold between assumed noise and the valid signal;

calculating a level of the input signal;

5 performing said step of generating when said step of comparing

determines that the level of the input signal is substantially higher than the reference level;

resetting the time period when said step of comparing determines

that the level of the input signal is substantially higher than the reference level, prior to performing said step of repeating;

10 said changing step calculating a new reference level as a function of the signal level.

9. An activation control, comprising:

15 an input node to provide an input signal;

a reference node to provide a reference signal;

HAL 193

a comparator operatively coupled to said nodes to compare the input signal with the reference signal and to provide a control when a compared relation between the input signal and the reference signal satisfies a condition;

5 a first generator coupled to said comparator and controlled by said comparator to generate an activation signal in response to the control; and

10 a timer control coupled to said comparator and determining elapsed time when the control is continuously and repeatedly absent, and in response to the elapsed time exceeding a reference, outputting a time control; and

15 a second generator coupled to said timer control, generating the reference signal to said reference node and dynamically changing a level of the reference signal in response to the time control.

15

10. The activation control of claim 9, further comprising:

HAL 193

said second generator generating the reference signal as a function
of the input signal.

11. A signal transmission device, including the activation control of

claim 10, for improvement of transmission quality, further comprising:

5 a calculator coupled to said input node to determine input signal

power for a frame of the input signal;

10 said comparator comparing the input signal power with the reference

level and providing a control when the input signal level substantially

exceeds the reference level; and

15 a transmitter transmitting the input signal in response to the control.

12. A voice activated speech transmitter according to claim 11,

further comprising:

15 each of said calculator, comparator and transmitter operating on a

frame by frame basis for successive frames of the input signal.

13. A voice activated speech transmitter that is dynamically adaptive to noise mixed with valid speech in an input signal, comprising:

means for providing a succession of activation signals indicating

5 speech by comparing power of corresponding successive frames of an

input signal with a reference noise power threshold;

means for transmitting the frames successively in response to successive ones of the activation signals; and

means for dynamically changing the reference noise power threshold when no activation signal is provided for a substantial predefined 10 continuous time period representing a plurality of successive frames.

14. A computer readable storage media having computer readable code implementing a method for activation that is dynamically adaptive to a level of noise mixed in the input signal, the code including statements 15 for performing the method of claim 1.

15. A computer readable storage media having computer readable
code implementing a method for activation that is dynamically adaptive to
a level of noise mixed in the input signal, the code including statements
for performing the method of claim 2.

5

16. A computer readable storage media having computer readable
code implementing a method for voice activated speech transmission that
is dynamically adaptive to a level of noise mixed with valid speech in the
input signal, the code including statements for performing the method of
claim 3.

10
15

17. A computer readable storage media having computer readable
code implementing a method for activation that is dynamically adaptive to
a level of noise mixed in the input signal, the code including statements

15

for performing the method of claim 4.

18. A computer readable storage media having computer readable
code implementing a method for data transmission that is dynamically
adaptive to a level of noise mixed with valid data in the input signal, the
code including statements for performing the method of claim 5.

19. A computer readable storage media having computer readable
code implementing a method for voice activated speech transmission that
is dynamically adaptive to a level of noise mixed with valid speech in the
input signal, the code including statements for performing the method of
claim 6.

20. A computer readable storage media having computer readable
code implementing a method for voice activated speech transmission that

is dynamically adaptive to a level of noise mixed with valid speech in the input signal, the code including statements for performing the method of claim 7.

5 21. A computer readable storage media having computer readable code implementing a method for data transmission that is dynamically adaptive to a level of noise mixed with valid data in the input signal, the code including statements for performing the method of claim 8.